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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,115	10/30/2000	Akihisa Horiuchi	865.4345 DI	8783

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EXAMINER

THOMPSON, TIMOTHY J

ART UNIT PAPER NUMBER

2873

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/698,115

Applicant(s)

HORIUCHI, AKIHISA

Examiner

Timothy J Thompson

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-18, 20, 23-26, 28-34, 36-38 and 40-45 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-18, 20, 23-26, 28-34, 36-38 and 40-43 is/are allowed.
- 6) ☒ Claim(s) 44 and 45 is/are rejected.
- 7) ☒ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krietzner(U.S. Patent No. 4,659,188) in view of Uzawa(U.S. Patent No. 6,016,228).

Regarding claim 44, Krietzner discloses a first lens unit of positive refractive power(fig 1, G1), a second lens unit of negative refractive power having including three negative lenses(fig 1, s6-s9 and s11-r12) and one positive lens(fig 1, s10-r11), a third lens unit of positive refractive power(fig 1, G3) with the third lens unit having a positive lens which is the closest to the object side(fig 1, s13-s14) and a fourth lens unit of positive refractive power(fig 1, G4), the fourth lens unit having a cemented lens being made of a positive lens and a negative lens, the negative lens of the cemented lens being cemented with the image side of the positive lens of the cemented lens(fig 1, s19-s21), the second lens unit moves to the image side for zooming from the wide angle end to the telephoto end, the third lens unit does not move during zooming and the fourth lens unit moves during

zooming(claims 1 and 6 disclose a lens system with the same lens structure as disclosed in fig 1, and claim 1 discloses that the second and fourth lens units move during zooming and the third lens unit is stationary during zooming with the zoom spacing data indicating that the second lens unit moves towards the image side during zooming, so it would be obvious to zoom the lens system of fig 1, with moving the second and fourth lens units while keeping the third lens unit stationary and moving the second lens unit towards the image side) . Krietzner does not disclose the positive lens in the third lens unit has an aspherical surface. However, Uzawa discloses using an aspherical service in both the second and third lens units(embodiment 1) further stating that any lens surface in both the second and third lens units can be used for placing an aspherical surface on(col 5, lines 39-55). It would have been obvious to one skilled in the art to place an aspherical surface on the positive lens in the third lens group, as shown by Uzawa, in the lens system of Krietzner, since as shown by Uzawa, placing an aspherical surface on the positive lens in the third lens group is commonly done so as to correct for aberrations.

Claim 45 rejected under 35 U.S.C. 103(a) as being unpatentable over Krietzner(U.S. Patent No. 4,659,188) in view of Uzawa(U.S. Patent No. 6,016,228) as applied to claim 44 above, and further in view of Mukaiya et al. (U.S. Patent No. 6,226,130).

Regarding claim 45, a modified Krietzner, as detailed in claim rejection 44 above, does not disclose discloses an image pickup receiving an image formed

by the zoom lens. However, Mukaiya et al. discloses an image pickup(fig 1, image pickup) receiving an image formed by the zoom lens(fig 1). It would have been obvious to one skilled in the art to use an image pickup receiving an image formed by the zoom lens, as shown by Mukaiya et al., in the zoom lens system of a modified Krietzner, since as shown by Mukaiya et al., an image pickup receiving an image formed by the zoom lens is commonly used for capturing images passing through the lens system.

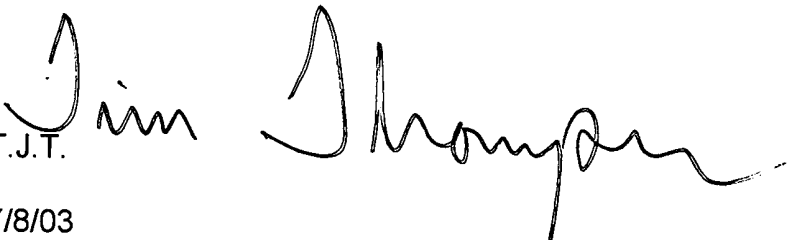
Allowable Subject Matter

Claims 12-18, 20, 23-26, 28-34, 36-38, 40-43 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art taken either singularity or in combination fails to anticipate or fairly suggest the limitations of the independent claim, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims 12, 23, 36-38, 41, 42, with the important features being the mathematical limitations pertaining to the radii of curvature of the fourth and fifth lens surface, the relationship of the focal length of $F3/FA$, $B4T$, v_n , v_p and N_n . Therefore, claims 12-18, 20, 23-26, 28-34, 36-38, 40-43 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (703) 305-0881. If the examiner can not be reached his supervisor, Georgia Epps, can be reached on (703) 308-4883.


T.J.T.

7/8/03